

to be more nearly related to the fossil *Ch. Murchisonii* than is *Ch. serpentina*. Leaving out Pomel's *Emydosaurus Meilheurtic*\*, from the Oligocene of Auvergne, of which a definition has never appeared, and Laube's imperfectly known *Chelydra argillarum*†, from the Oligocene of Bohemia, four species of *Chelydra* are known, two recent and two fossil. Their principal characters are contrasted in the following synopsis:—

*Synopsis of the Species.*

- I. Vertebral shields at least two thirds the width of the costals; the length of the outer border of the hyosternal bone less than that of the inner.
- Anterior lobe of plastron angular; bridge very narrow, not more than one tenth of the length of the plastron; two barbels. . . 1. *serpentina*, L.
- Anterior lobe of plastron angular; bridge comparatively broad, less than one ninth of the length of the plastron; four barbels. . . 2. *Rossignonii*, Bocourt.
- Anterior lobe of plastron with nearly parallel sides, truncate in front; bridge comparatively broad, formed to a nearly equal extent by the hyo- and the hyposternals. . . 3. *Murchisonii*, Bell.
- II. Vertebral shields not much broader than long, not more than two thirds the width of the costals; bridge comparatively broad, formed to a nearly equal extent by the hyo- and the hyposternals; the length of the outer border of the hyosternal as great as that of the inner. . . 4. *Dechenii*, II v. Mey.†

X.—*Descriptions of new Batrachians and Reptiles from North-western Ecuador.* By G. A. BOULENGER, F.R.S.

*Cæcilia nigricans.*

Teeth moderately large, few (about eight on each side of the upper jaw and six on each side of the lower). Snout rounded, very prominent, as long as the distance between the eyes; latter visible; tentacle below and a little behind the nostril, on the lower surface of the snout. Body much elongate, its diameter about sixty times in the total length;

\* Bull. Soc. géol. France, (2) iii. 1846, p. 372.

† Abh. Ver. Lotos, ii. 1900, p. 47.

‡ I regard *Chelydropsis carinata*, C. Peters, as based on an older specimen of the same species.

220 circular folds, interrupted dorsally on the anterior half of the body. Tail indistinct, rounded. Blackish; lips yellowish.

Total length 600 millim.; greatest diameter of body 10.

A single specimen from the Rio Lita, 3000 feet.

*Agalychnis calcarifer.*

Tongue oval, openly emarginate behind. Vomerine teeth in two short oblique series between the choanæ. Head moderately depressed, as long as broad; snout rounded, not projecting beyond the lower jaw; canthus rostralis feeble; loreal region slightly concave; interorbital space as broad as the upper eyelid; tympanum close to the eye, half its diameter. Fingers nearly entirely webbed, the disks larger than the tympanum; toes rather short, nearly entirely webbed, the disks a little smaller than those of the fingers; subarticular tubercles very prominent. The tibio-tarsal articulation reaches the tip of the snout. Skin smooth, granular on the belly and in front of the vent; a narrow dermal fold along the outer edge of the forearm and tarsus; a truncate dermal flap above the vent; heel with a large triangular dermal flap. Green above, this colour restricted to a narrow band on the upper surface of the thighs; hands, feet (with the exception of part of the outer digit), arms, sides of thighs, and lower parts bright yellow; short black bars on the flanks and limbs on the limit between the green and yellow colours.

From snout to vent 57 millim.

A single female specimen from the Rio Durango, 350 feet.

*Hylodes subsigillatus.*

Tongue oval, slightly nicked behind. Vomerine teeth in two very short transverse series behind the choanæ. Head a little broader than long; snout rounded, as long as the diameter of the orbit, with distinct canthus; nostril much nearer the tip of the snout than the eye; loreal region concave; interorbital space as broad as the upper eyelid; tympanum distinct, half the diameter of the eye. Fingers moderate, first shorter than second; toes rather short, free; disks large; subarticular tubercles moderately developed; a small metatarsal tubercle. The tibio-tarsal articulation reaches the eye. Skin of upper parts nearly smooth; belly granular. Brown above, tinged with crimson; an oblique crimson streak on each side of the upper surface of the head behind the eye, directed towards its fellow behind; a dark streak on the

canthus rostralis and another on the temple; dark streaks radiating from the eye to the lip; oblique dark bands on the flanks; a pink vertebral line; limbs with dark cross-bars; throat and belly white, reticulate with dark brown; lower surface of limbs dark brown, with white spots.

From snout to vent 35 millim.

A single female specimen from Salidero, 350 feet.

*Leptodactylus ventrimaculatus.*

Tongue oval, slightly nicked behind. Vomerine teeth in two arched series behind the choanae. Snout rounded, feebly prominent, as long as the diameter of the orbit; nostril midway between the eye and the end of the snout; inter-orbital space a little narrower than the upper eyelid; tympanum two thirds the diameter of the eye. Fingers moderate, first much longer than second; toes moderate, not fringed; subarticular tubercles very prominent; a small oval inner metatarsal tubercle. The tibio-tarsal articulation reaches the shoulder or the tympanum. Skin smooth; a glandular fold from the eye to the shoulder, above the tympanum, another on each side of the back. Dark brown above, with small black spots; glandular folds edged with black; upper lip with black vertical bars; limbs with irregular blackish cross-bars; hinder side of thighs black, with white dots; lower parts white, spotted or marbled with brown.

From snout to vent 55 millim.

Three female specimens from Bulón, 160 feet.

*Nicoria nasuta.*

Carapace rather strongly depressed, with a mere trace of a vertebral keel, scarcely emarginate anteriorly. Vertebral shields broader than long, nearly as broad as or broader than the costals; nuchal very small. Plastron large; the width of the bridge equals or exceeds the length of the posterior lobe, which is broadly notched behind; anterior lobe truncate in front. Axillary and inguinal shields present, small. Dorsal shields smooth or slightly rugose. Head moderate; snout strongly projecting, much more than in *N. punctularia*; upper jaw not hooked, with a feeble notch; width of the mandible at the symphysis a little less than the horizontal diameter of the orbit. Digits very distinctly webbed. Tail as long as the head in the male. Carapace dark brown above, yellowish beneath; plastral shields yellow, with a large dark brown or black blotch, or black bordered with yellow; head, neck, and limbs dark brown; a yellowish

streak on the canthus rostralis, another from the eye to the tympanum, a third on each side of the back of the head, from above the posterior border of the orbit to the nape, parallel with the temporal streak, and a fourth on the mandible from below the eye.

Length of shell 20 centim.

Several specimens from Bulún, 160 feet, and from the Rio Durango, 350 feet.

*Spharodactylus scapularis.*

Head twice as long as broad; snout pointed, slightly longer than the distance between the eye and the ear-opening, once and a half the diameter of the orbit; ear-opening small, oval, oblique. Rostral moderately large, with longitudinal cleft above; nostril pierced between the rostral, the first labial, and three small nasals; five upper and as many lower labials; symphysial large, truncate posteriorly; no chin-shields. No spine-like scale above the eye. Upper surfaces covered with small, equal, juxtaposed granular scales; the scales larger and quite flat on the snout; ventral scales larger, imbricate, smooth. Tail cylindrical, tapering, covered with subimbricate smooth scales, which are larger inferiorly. Brown above; a dark band across the scapular region and a dark rhomboidal spot between the hind limbs; tail with some rather indistinct dark and light ocellar spots, and two black, light-edged annuli near its extremity; lower parts brownish white.

	millim.
Total length.....	59
Head.....	8
Width of head .....	4
Body.....	21
Fore limb.....	9
Hind limb .....	10
Tail .....	30

A single specimen from St. Javier, 60 feet.

Allied to *S. glaucus*, Cope; distinguished by the flatter granules on the snout and the absence of a supraocular spine.

*Anolis princeps.*

Head nearly once and two thirds as long as broad, as long as the tibia; forehead concave; no frontal ridges; upper head-scales small, mostly keeled; supraorbitals and occipital feebly enlarged, the former separated by four or five rows of scales; supraocular scales very small, keeled; canthus

rostralis strong and short; loreal rows nine to eleven; ten to twelve upper labials to below the centre of the eye; ear-opening oval, not much smaller than the eye opening. Body compressed; no distinct nuchal fold. Gular appendage large in the male, small in the female. Dorsal and lateral scales very small, granular, the former a little larger than the latter and distinctly keeled; ventral scales larger, granular, smooth or indistinctly keeled. The adpressed hind limb reaches between the eye and the nostril; digital expansions rather feeble; 20 to 22 lamellæ under phalanges II and III of the fourth toe. Tail slightly compressed, without upper ridge, covered with small keeled scales; its length more than twice that of head and body. Male with a pair of enlarged postanal scales. Olive or bluish grey above, with large dark brown or black spots and bars, and whitish streaks, which are disposed obliquely on the sides and may form a regular network over the whole body; the brown spots form four transverse series on the body, broken up by the light lines; the lower spot of the first series in front of the shoulder; a vertebral series of small rhomboidal light spots may be present; dark and light streaks across the supraocular and interorbital regions; a whitish spot below the eye; brown bars radiating from the eye on the lips and temple; limbs and tail with regular dark cross-bars; lower parts whitish.

	♂. millim.	♀. millim.
Total length .....	342	345
Head .....	28	28
Width of head .....	17	17
Body .....	80	82
Fore limb .....	57	54
Hind limb .....	93	95
Tibia .....	28	28
Tail .....	244	245

Several specimens from St. Javier (60 feet), Salidero (350 feet), R. Lita (3000 feet), and Paramba (3500 feet).

#### *Proctoporus hypostictus.*

Head rather large; limbs comparatively strong, meeting when pressed against the body. Frontonasal longer than broad, slightly larger than the frontal; frontoparietals moderate; parietals forming an oblique suture with the large supratemporal; interparietal widening posteriorly, a little longer than the parietals; no median occipital; four supraoculars, anterior small; a loreal; a series of large infra-

orbitals; temporal shields large; seven upper and five lower labials; chin-shields, one anterior and three pairs, the first two pairs forming a suture; nine rows of shields between the chin-shields and the edge of the collar; collar-shields ten. Dorsal scales elongate-quadrangular, feebly but very distinctly keeled, forming uninterrupted series across the back; 29 scales from occiput to sacrum inclusively. Ventral scales broader, but not longer than dorsals, in 12 longitudinal and 19 transverse series. 40 scales round the middle of the body. Five præanal shields, median triangular, preceded by a pair of large shields. Six femoral pores on each side. Tail thick, covered with elongate quadrangular scales, the basal dorsals feebly keeled. Dark brown above, with small irregular black spots; black beneath; throat, belly, lower surface of limbs, and base of tail with numerous round white spots regularly disposed; four white bars across the chin.

	millim.
Total length.....	188
Head.....	18
Width of head.....	12
From end of snout to fore limb.....	31
From end of snout to vent.....	81
Fore limb.....	22
Hind limb.....	29
Tail (reproduced).....	107

A single male specimen from Paramba, 3500 feet.

*Rhadinaea subocularis.*

Eye moderate. Rostral broader than deep, scarcely visible from above; internasals much broader than long, shorter than the præfrontals; frontal once and two thirds as long as broad, longer than its distance from the end of the snout, shorter than the parietals; loreal as long as deep; two præoculars, with a small subocular below them; two postoculars; temporals 1 + 2; eight upper labials, fourth and fifth entering the eye; five lower labials in contact with the anterior chin-shields, which are as long as the posterior. Scales in 17 rows. Ventrals 113-114; anal divided; subcaudals 98. Brown above; a yellowish streak, edged with black beneath, from the eye along each side of the back to the tail, running along the fifth and sixth series of scales on the body; this streak interrupted on the temple; a dark streak on each side of the head, passing through the eye; upper lip and lower parts yellowish white.

Total length 370 millim.; tail 160.

Two specimens from Paramba, 3500 feet.

*Elaps calamus.*

Head much depressed. Eye not half as long as its distance from the mouth. Rostral much broader than deep; frontal scarcely broader than the supraocular, twice as long as broad, as long as its distance from the end of the snout, shorter than the parietals, which are as long as their distance from the end of the snout; one præ- and one postocular; anterior temporal absent, the sixth upper labial forming a long suture with the temporal; seven upper labials, third much larger than fourth, third and fourth entering the eye; three lower labials in contact with the anterior chin-shields, which are a little shorter than the posterior and separated from the symphysial. Scales in 15 rows. Ventrals 289; anal divided; subcaudals 26 (11 single). Tail ending very obtusely. 72 black annuli, separated above by narrow brownish interspaces closely spotted with black, beneath by broader white (red?) bars; snout black, followed by a white area extending to near the posterior extremity of the parietal shields; a broad black nuchal band.

Total length 500 millim.; tail 25.

A single female specimen from St. Javier, 60 feet.

*Leptognathus gracilis.*

Body slender, strongly compressed. Eye large. Rostral twice as broad as deep, not visible from above; internasals about half as long as the præfrontals; frontal as long as broad, as long as its distance from the end of the snout, shorter than the parietals; nasal divided; no præocular, loreal and præfrontal entering the eye; two postoculars; temporals 2+2; nine upper labials, third, fourth, and fifth entering the eye; first lower labial in contact with its fellow behind the symphysial; two pairs of chin-shields, the anterior as long as broad. Scales in 15 rows, vertebrals very feebly enlarged. Ventrals 197-208; anal entire; subcaudals 117-129. 22 or 24 large black blotches encircle the body, separated by narrower pale brownish white-edged spaces, which, on the posterior part of the body, may bear small black spots or vermiculations; upper head-shields and lips black, back of head yellowish; a black longitudinal streak on the occiput and another on the chin.

Total length 770 millim.; tail 240.

Two male specimens from St. Javier, 60 feet.